

GENERIC · CHASSIS

C0552

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

C0552

Longitudinal Acceleration Sensor Range/Performance

C0552 means the electronic stability control (ESC) module has detected that the longitudinal acceleration sensor is reporting values outside its expected range or is not performing reliably. The sensor measures forward and backward acceleration, and the module compares its signal against other vehicle data to flag a range or performance fault.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Chassis	Generic (all makes)	Medium	Intermediate	Brakes, steering and suspension

Symptoms you may notice

- The stability control (ESC) or traction control warning light illuminates steadily on the dashboard.
- The anti-lock brake system (ABS) warning light may also come on if the fault affects shared sensor data.
- Cruise control may become inoperative or disengage unexpectedly because it relies on longitudinal acceleration data.
- The vehicle may feel less stable in emergency maneuvers or on slippery surfaces if stability control is disabled.
- A stored code may be the only sign, with no noticeable change in driving behavior.
- In some cases, the transmission may shift harshly or hold gears longer due to missing acceleration input.

Common causes, most likely first

- A faulty longitudinal acceleration sensor, often due to internal failure or contamination.
- Damaged or corroded wiring and connectors between the sensor and the ESC module.
- A poor electrical ground or voltage supply issue affecting the sensor circuit.
- The sensor not being properly calibrated or initialized after battery replacement or suspension work.
- A software glitch or outdated calibration in the ESC module requiring a reflash.
- Physical damage to the sensor mounting or its location due to impact or corrosion.
- A failing ESC module that misinterprets sensor data, though this is less common.



How to diagnose and fix it

- 1 Use a scan tool to read all codes and confirm C0552 is current, then check for related ABS or ESC codes.
- 2 Inspect the longitudinal acceleration sensor and its wiring for visible damage, corrosion, or loose connections.
- 3 Check the sensor's electrical connector for proper voltage and ground signals using a multimeter.
- 4 Verify the sensor mounting is secure and free of debris or damage that could affect readings.
- 5 Perform a calibration or relearn procedure for the longitudinal acceleration sensor with a capable scan tool.
- 6 If the sensor fails electrical tests, replace it and clear codes, then test-drive to confirm the fix.
- 7 If the fault persists, check for ESC module software updates or diagnose the module itself.

Why this sensor fault is often misdiagnosed

- A weak or failing battery can cause voltage drops that trigger a false C0552, so always load-test the battery before condemning the sensor.
- The longitudinal acceleration sensor is sometimes shared with other systems like hill-start assist, so a fault may disable multiple features beyond stability control.
- After replacing the sensor, many vehicles require a calibration drive cycle that includes specific speeds and turns, which is often overlooked.
- Corrosion inside the sensor connector is a common cause that visual inspection alone may miss; a wiggle test while monitoring live data can reveal it.
- The code can set intermittently due to a loose ground connection, so a resistance check of the ground circuit is essential before parts replacement.

Can I keep driving with C0552?

You can usually drive the vehicle, but stability control and related safety systems may be disabled, so avoid aggressive maneuvers and slippery conditions. Have the fault diagnosed soon to restore full safety system function.

Tools that help

- OBD-II scan tool with ESC/ABS capabilities
- Digital multimeter
- Wiring diagram for the specific vehicle
- Basic hand tools for trim and connector access
- Calibration-capable scan tool or dealer-level software



Reading C0552

- C** Chassis: brakes, steering and suspension.
- 0** Generic (SAE) code: it means the same thing on every OBD-II vehicle.
- 5** Brakes, steering and suspension.
- 52** The exact fault within that area.

Often seen with

C0050 Right Rear Wheel Speed Sensor Circuit Malfunction · **C0110** ABS Pump Motor Circuit Malfunction · **C0551** Longitudinal Acceleration Sensor Circuit/Open · **C0553** Longitudinal Acceleration Sensor Circuit Low · **U0122** Lost Communication With Vehicle Dynamics Control Module

See it working

Watch the animated explainer [How a Car Thermostat Works: Wax Pellet and Cooling Fan](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/c0552/>

